

WHAT IS CLAIMED IS:

1. A photosolder resist composition containing (A) a resin containing radical polymerization groups and carboxyl groups obtained by adding a cyclic ether group of a cyclic ether group-containing vinyl monomer to a carboxylic group of a radical copolymer containing at least isobornyl (meth) acrylate and a carboxyl group-containing vinyl monomer as monomer units; (B) an inorganic filler; and (C) a photocurable mixture of a polyfunctional acrylic monomer (c1), a cyclic ether group-containing compound (c2), and a photopolymerization initiator (c3).

2. The photosolder resist composition according to claim 1, wherein said resin (A) has double bonds of  $0.1 \times 10^{-3}$  to  $3.0 \times 10^{-3}$  mol/g and the content of the carboxyl group of 15 30 to 200 mgKOH/g.

3. The photosolder resist composition according to claim 1, wherein the ratio of the carboxyl group in said resin (A) and the cyclic ether group in said photocurable mixture (C) is (1.3/0.7) to (0.7/1.3) by mole ratio.

20 4. The photosolder resist composition according to claim 1 further containing a coloring pigment.

5. The photosolder resist composition according to claim 1, wherein the content of said inorganic filler (B) is 5 to 75 parts by weight in 100 parts by weight of solid content 25 of the entire photosolder resist composition.

6. The aqueous emulsion type photosolder resist composition according to claim 1, wherein said resin (A) is neutralized by a base and made water-soluble.

7. The aqueous emulsion type photosolder resist composition according to claim 6, wherein said resin (A) has double bonds of  $0.1 \times 10^{-3}$  to  $3.0 \times 10^{-3}$  mol/g and the content of the carboxyl group of 30 to 200 mgKOH/g.

8. The aqueous emulsion type photosolder resist composition according to claim 6, wherein the ratio of the carboxyl group in said resin (A) and the cyclic ether group in said photocurable mixture (C) is (1.3/0.7) to (0.7/1.3) by mole ratio.

9. The aqueous emulsion type photosolder resist composition according to claims 6 further containing a coloring pigment.

10. The aqueous emulsion type photosolder resist composition according to claim 6, wherein the content of said inorganic filler (B) is 5 to 75 parts by weight in 100 parts by weight of solid content of the entire photosolder resist composition.

11. A solder resist film obtained by applying the photosolder resist composition according to claim 1 to a substrate, drying at 50 to 90°C, exposing by activation energy beam, removing and developing non-exposed parts with an alkaline washing solution, and heating and curing the

photocured parts at 140 to 170°C.

12. A solder resist film obtained by applying the  
photosolder resist composition according to claim 6 to a  
substrate, drying at 50 to 90°C, exposing by activation energy  
beam, removing and developing non-exposed parts with an  
alkaline washing solution, and heating and curing the  
photocured parts at 140 to 170°C.